# Sumitomo Pharma Presents Encouraging New Data on DSP-5336 Clinical Activity at the American Society of Hematology Annual Meeting

*– DSP-5336, an Investigational Menin and Mixed-lineage Leukemia Inhibitor, is Being Evaluated in Patients with Relapsed or Refractory Acute Leukemia, with Positive Preliminary Data Presented at ASH –*

CAMBRIDGE, Mass., Dec. 11, 2023 /PRNewswire/ -- Sumitomo Pharma America, Inc. (SMPA) today announced new data from the ongoing Phase 1/2 first-in-human study of DSP-5336, in patients with relapsed or refractory acute leukemia, presented at the 65th American Society of Hematology (ASH) Annual Meeting & Exposition. DSP-5336 is an investigational small molecule inhibitor of the menin and mixed-lineage leukemia (MLL) protein interaction, which plays key roles in biological pathways, including cell growth regulation, cell cycle control, genomic stability, bone development, and hematopoiesis.[1,2,3]

Data from the open-label, ongoing dose determination portion of the Phase 1/2 study enrolling patients with relapsed or refractory acute leukemia with relevant genomic alterations receiving oral DSP-5336 up to 200 mg twice-daily were presented at the meeting. In the ongoing study, patients are continuing to dose escalate and are now at therapeutic levels.

Preliminary results presented at ASH 2023 included four evaluable patients treated with DSP-5336 200 mg twice-daily, three of whom showed objective responses. Clinical remission with partial hematologic recovery and clinical remission with incomplete count recovery (CRh/CRi) was achieved by one patient, CRi was achieved by one patient, and morphologic leukemia-free state (MLFS) was achieved by one patient. All patients cleared peripheral blasts. To date, DSP-5336 has been well-tolerated, notably, with no treatment-related cardiac effects, including QT prolongation. Additionally, differentiation syndrome has not been observed at the 200 mg twice-daily dose.

"While these data are early-stage, it is encouraging to see promising clinical activity from DSP-5336, particularly with limited safety signals and a clean tolerability profile to date," said Navel Daver, M.D., Director, Department of Leukemia, Division of Leukemia Research Alliance Program, The University of Texas MD Anderson Cancer Center and lead author on the DSP-5336 poster at ASH. "DSP-5336 is an investigational targeted therapy that inhibits menin-MLL protein interaction. Inhibition of the menin-MLL protein interaction may be able to reverse the leukemogenic activity of MLL fusion proteins and may be a future therapeutic option for acute leukemia."

Leukemia is a type of cancer that forms in blood-forming tissue, characterized by the uncontrolled growth of blood cells, usually white blood cells in the bone marrow.[4] Acute leukemia, a form of leukemia, requires immediate treatment as blood cells multiply rapidly leading to a sudden onset of symptoms.[4]

"There is a high unmet need for new and innovative approaches in the treatment of relapsed or refractory acute leukemia, as many patients have limited options to treat the disease or do not respond to currently available cancer therapies," said Jatin Shah, M.D., Chief Oncology Development Officer, SMPA. "We believe we are close to determining the appropriate therapeutic dose of DSP-5336 in our ongoing study and were encouraged by our discussions on these results with the leading hematological oncology community at ASH. We look forward to continuing the study of DSP-5336 as a monotherapy and to exploring additional combination studies."

Additional SMPA data presented at ASH included an oral presentation of encouraging preliminary results from the ongoing Phase 1/2 study of TP-3654 monotherapy in patients with relapsed or refractory myelofibrosis who were previously treated with or ineligible for a JAK inhibitor.

**About DSP-5336**
DSP-5336 is an investigational small molecule inhibitor of the menin and mixed-lineage leukemia (MLL) protein interaction. Menin is a scaffold nuclear protein that plays various key roles in biological pathways, including cell growth regulation, cell cycle control, genomic stability, bone development, and hematopoiesis.[1,2] In preclinical studies, DSP-5336 has shown selective growth inhibition in human acute leukemia cell lines with KMT2A (MLL) rearrangements or NPM1 mutations.[1,3] DSP-5336 showed induced reduction of gene expression of HOXA9 and MEIS1, which are highly expressing leukemia associate genes, and increased expression of differentiation marker gene CD11b in the human acute leukemia cell lines with MLL rearrangements.[5,6] DSP-5336 also showed

growth inhibition and changes of gene expression levels of HOXA9, MEIS1 and CD11b on human acute leukemia patient samples with MLL rearrangements or NPM1 mutations.[5,6] The safety and efficacy of DSP-5336 is currently being clinically evaluated in a Phase 1/2 dose escalation/dose expansion study in patients with relapsed or refractory acute leukemia (NCT04988555). The FDA granted Orphan Drug Designation for DSP-5336 for the indication of acute myeloid leukemia in June 2022.

**About TP-3654**
TP-3654 is an oral investigational inhibitor of PIM1 kinase, which has shown potential antitumor and antifibrotic activity through multiple pathways, including induction of apoptosis in preclinical models.[7,8] TP-3654 was observed to inhibit proliferation and induce apoptosis in murine and human hematopoietic cells expressing the clinically relevant JAK2V617F mutation.[7] TP-3654 alone and in combination with ruxolitinib showed white blood cell and neutrophil count normalization, and also reduced spleen size and bone marrow fibrosis in JAK2V617F and MPLW515L murine models of myelofibrosis.[8] The safety and efficacy of TP-3654 is currently being clinically evaluated in a Phase 1/2 study in patients with intermediate and high-risk myelofibrosis (NCT04176198). The U.S. Food and Drug Administration (FDA) granted Orphan Drug Designation for TP-3654 for the indication of myelofibrosis in May 2022.

**About Sumitomo Pharma**
Sumitomo Pharma Co., Ltd. is a global pharmaceutical company based in Japan with key operations in the U.S. (Sumitomo Pharma America, Inc.), Canada (Sumitomo Pharma Canada, Inc.) and Europe (Sumitomo Pharma Switzerland GmbH) focused on addressing patient needs in psychiatry & neurology, oncology, urology, women's health, rare disease, and cell & gene therapies. With several marketed products in the U.S., Canada, and Europe, a diverse pipeline of early- to late-stage assets, and in-house advanced technology capabilities, we aim to accelerate discovery, research, and development to bring novel therapies to patients sooner. For more information, please visit https://www.us.sumitomo-pharma.com and LinkedIn to follow us.



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